

SASKATCHEWAN HEALTH RESEARCH BOARD

ANNUAL REPORT

Period ending March 31, 1990

—Saskatchewan Health Research Board—

October 1990

#5 — 3002 Louise Street
Saskatoon, Saskatchewan
S7J 3L8 (306) 373-5575

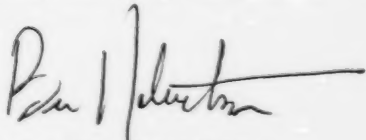
The Hon. George McLeod
Minister of Health
Legislative Building
Regina, Saskatchewan
S4S 0B3

The Hon. Jack Wolfe
Associate Minister of Health
Legislative Building
Regina, Saskatchewan
S4S 0B3

Sirs:

I beg to present herewith for your consideration the Annual Report of the Saskatchewan Health Research Board for the fiscal year ending March 31, 1990.

Respectfully submitted

A handwritten signature in dark ink, appearing to read 'Bev Robertson', with a long horizontal stroke extending to the right.

Dr. Bev Robertson
Chairman

TABLE OF CONTENTS

	<u>PAGE</u>
LETTER OF TRANSMITTAL	
1. CHAIRMAN'S STATEMENT	1
2. LEGISLATIVE AUTHORITY AND MANDATE	3
3. THE SASKATCHEWAN HEALTH RESEARCH FUND	3
4. COMPETITIONS AND AWARD CATEGORIES	3
5. COMPETITION AND REVIEW PROCESS	4
6. PROFILE OF THE TENTH GENERAL COMPETITION (1989-90)	4
7. STRATEGIC AND MATCHING GRANTS PROGRAMME	6
8. EVALUATION RESEARCH	7
9. LOOKING TOWARDS THE YEAR 2000	8

TABLES

1 SUMMARY OF ELIGIBLE APPLICATIONS RECEIVED, RECOMMENDED, AND FUNDED, COMPETITION 10 (1989-90)	5
--	---

APPENDICES

1 SASKATCHEWAN HEALTH RESEARCH BOARD APRIL 1, 1989 THROUGH MARCH 31, 1990	12
2 FINANCIAL STATEMENTS AND THE AUDITOR'S REPORT THEREON	14
3A SASKATCHEWAN HEALTH RESEARCH BOARD BIOMEDICAL REVIEW COMMITTEE, COMPETITION 10 (1989)	23
3B SASKATCHEWAN HEALTH RESEARCH BOARD SOCIO-HEALTH REVIEW COMMITTEE, COMPETITION 10 (1989)	24
3C SASKATCHEWAN HEALTH RESEARCH BOARD PERSONNEL AWARDS REVIEW COMMITTEE, COMPETITION 10 (1989)	25
4 SASKATCHEWAN HEALTH RESEARCH BOARD AWARDS GRANTED, COMPETITION 10 (1989)	26

1. CHAIRMAN'S STATEMENT

The Saskatchewan Health Research Board (SHRB) concluded its eleventh year of operation in 1989-90. As the Board and the health research community entered a new decade, the success of earlier initiatives continued, and one major new development in evaluation research began.

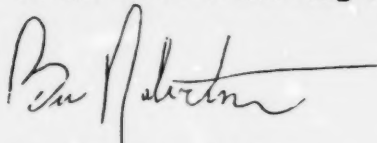
In 1986-87 the Board decided to set aside \$200,000 in each of the next five fiscal years to fund a Strategic and Matching Grants programme. Two groups have been funded under this programme: the Reproductive Biology Research Unit, and the Pharmacoepidemiology Research Consortium. This programme has proved to be an unqualified success, as outlined in more detail in Section 7 of this report. The major direct impact of the programme has been to bring excellent new scientists into the province. A related and equally important result has been the success of both groups in attracting significant new external funding. The RBRU was able to start up in 1988, and already the external funds generated have exceeded the \$500,000 SHRB outlay. Prospects for even larger amounts are very good.

The Pharmacoepidemiology Research Consortium became fully operational in late 1989, but already a quarter of a million dollars in external funding has been obtained by members of the group.

During the year the Board received from Saskatchewan Health the first instalment of \$500,000 to develop and assist evaluation research in Saskatchewan. In order to introduce the topic to a wide range of Saskatchewan organizations and agencies, the Board held a very successful conference on January 18-19, 1990. Attended by over 300 people, the conference was a springboard to the first grants competition in evaluation research, the results of which will be reported in next year's annual report. It is timely that an evaluation research initiative be pursued by the Board, because the health system is being encouraged to examine its effectiveness and efficiency on a regular basis. In addition, the Murray Commission on the future of the provincial health system recommends a major expansion of the policy-related research sector. Section 8 of this report elaborates further on the Board's evaluation research activities.

Section 9 of this report summarizes the development and current status of health research in the province. While over the years there have been a number of notable successes, and while the Board's activities have without a doubt helped sustain the health research infrastructure, the future remains uncertain. There are a number of aspects of the Saskatchewan environment, notably the world-renowned government databases, which suggest exciting possibilities for health research development. Other provinces have made major investments in health research during the past decade, and Saskatchewan will be unable to compete without similar commitments. Particularly as health research becomes increasingly multidisciplinary and international in scope, the need for large-scale and continuous funding becomes apparent. We have every confidence that Saskatchewan can compete at a national level on a number of important fronts. Given that we are entering a new decade and that the Government of Saskatchewan must consider the recommendations of the report of the *Commission on Future Directions in Health Care*, we suggest that it is appropriate also to consider

making a commitment to compete on a national level for research funds and to develop more nationally recognized research teams in Saskatchewan. Whether or not the province moves to the forefront in appropriate areas will depend on the level of the long-range and adequately funded commitment to research.

A handwritten signature in dark ink, appearing to read "Bev Robertson", with a long horizontal flourish extending to the right.

Dr. Bev Robertson
Chairman

2. LEGISLATIVE AUTHORITY AND MANDATE

The SHRB was established as a corporate body under The Health Research Act, proclaimed September 15, 1979, to administer the Saskatchewan Health Research Fund. The Board was empowered under the Act to "assist and stimulate research in the healing arts and health sciences including:

- " - the causes, detection, distribution, prevention and management of human illness and disabling conditions;
- " - health maintenance and health promotion;
- " - the social, environmental, and biological aspects of the human aging process;
- " - the utilization of health services."

The Board is to consist of at least six and not more than twelve members appointed by the Lieutenant Governor in Council who are residents of Saskatchewan as follows: two representatives from the health sciences or healing arts in the University of Saskatchewan; one from the University of Regina; one member from the Saskatchewan Department of Education; one member from the Saskatchewan Department of Health; and up to seven others. Both the Chairman and Vice-Chairman are designated by the Lieutenant Governor in Council. Appendix 1 lists the members who served on the Board during 1989-90.

3. THE SASKATCHEWAN HEALTH RESEARCH FUND

With the proclamation of the Act, the Saskatchewan Health Research Fund came into being for the purpose of assisting and stimulating research in the healing arts and health sciences. From time to time during its history the Board has received grants for special purposes from Saskatchewan Health, and transactions in these instances are accounted for separately. In 1985-86, the Board received \$100,000 to hold a gerontology research competition. The Gerontology Fund was established for accounting purposes during that year, and will be closed out as of March 31, 1990. During 1989-90, the Board received \$500,000 for evaluation research, and the financial statements include a separate accounting for this grant. The General Fund received \$1 million during 1989-90, up from \$870,000 in the previous year. Attached as Appendix 2 are the financial statements which detail the financial transactions of the Board as certified by the Provincial Auditor.

4. COMPETITIONS AND AWARD CATEGORIES

The Board awards grants on the basis of an annual general competition, occasionally augmented by special competitions when funding is available. The tenth competition, with a closing date of March 15, 1989, invited applications in the following categories:

- a) Establishment Grants to assist new researchers in becoming established in

the province, to a maximum of \$30,000 per annum for up to two years, non-renewable.

- b) Research Fellowships in two categories: *Postdoctoral Fellowships*, for holders of a doctorate degree who wish to develop their fields of research and equip themselves for independent investigation in institutions in Saskatchewan, are valued at \$24,780 in the first year and \$26,520 in the second year, renewable in some circumstances for a third year upon reapplication with a value of 28,200. *Clinical Research Fellowships* support holders of health professional degrees who wish to pursue careers as clinician researchers (i.e., those who remain in practice and conduct research as well). The stipend in this category varies with experience, and as for Postdoctoral Fellowships is commensurate with rates set by the Medical Research Council of Canada.
- c) Socio-Health Research Grants of up to \$30,000 per year for up to two years, non-renewable, open to all socio-health researchers in Saskatchewan.
- d) Equipment Grants of up to \$30,000 to provide new or essential replacement items for proven investigators with active research programmes and operating grants.

5. COMPETITION AND REVIEW PROCESS

The Board uses peer review as the major basis for the granting of awards. Appendices 3A, 3B, and 3C list the membership of the Biomedical, Socio-Health, and Personnel Awards Review Committees respectively during 1989-90. Each committee is chaired by a member of the Board, but all other members are drawn from the research community.

The review committees examine, adjudicate, and rank the applications received, and make recommendations to the Board on the order of funding priorities. Research grant applications are sent to two out-of-province experts for assessment. Personnel awards applications are assessed by the committees only. The Board receives the reports of the review committees and retains final authority to make all appropriations after considering the recommendations of its review committees.

6. PROFILE OF THE TENTH GENERAL COMPETITION (1989-90)

Table 1 summarizes the total number of applications, the numbers recommended for funding by the review committees, and the ultimate funding decisions of the Board arising from the 1989-90 General Competition.

The number of applications received and the total amount requested were virtually identical to 1988-89, although in both instances the numbers are artificially low due to the highly restricted nature of Board competitions (i.e., only a small subset of the health research community is eligible to apply because of funding limitations). However, the number recommended for funding and the number ultimately funded increased, indicating an

improvement in the quality of applications, and an increase in the amount of money available.

The figures in the table exclude the \$200,000 awarded to the two groups funded under the Strategic and Matching Grants Programme, described below. They include four grants totalling \$138,605 awarded from the Evaluation Fund on the basis of their subject matter (see Sec. 8 below for elaboration). The grants and awards for the 1989 competition are listed in Appendix 4.

TABLE 1
SUMMARY OF ELIGIBLE APPLICATIONS
RECEIVED, RECOMMENDED, AND FUNDED
COMPETITION 10 (1989-90)

GRANT CATEGORY	APPL. RECEIVED		APPL. RECOMMENDED		APPL. FUNDED	
	No.	\$ Requested	No.	\$ Requested	No.	\$ Awarded
Biomed. Establ.	17	\$ 934,087	14	\$710,333	12	\$664,333
Biomed. Equip	3	74,000	3	74,000	3	74,000
BIOMED. SUBTOTALS	20	\$1,008,087	17	\$ 784,333	15	\$ 738,333
Socio-Health Establ.	1	\$ 41,355	1	\$ 10,645	1	\$ 10,645
Socio-Health Research	6	181,303	3	106,492	2	76,660
Socio-Health Equip.	1	29,843	0	0	0	0
SOCIO-HEALTH SUBTOT.	8	\$ 252,501	4	\$ 117,137	3	\$ 87,305
Postdoctoral Fell.	11	\$ 518 100	8	\$ 364,200	6	\$ 261,600
Clin. Research Fell.	0	0	0	0	0	0
FELLOWSHIP SUBTOT.	11	\$ 518,100	8	\$ 364,200	6	\$ 261,600
Conference Grants	2	\$ 7,500	2	\$ 4,000	2	\$ 4,000
GRAND TOTALS	41	\$1,786,188	31	\$1,269,670	26	\$1,091,238

7. STRATEGIC AND MATCHING GRANTS PROGRAMME

As reported in previous annual reports, the main purpose of the programme is to provide sufficient resources over an initial period of time to allow groups of investigators to develop more fully than would be the case if they continued to work in relative isolation. The expectation is that the initial funding provided by the SHRB over a three-to-five-year period will increase the capacity and performance of research groups to the point where they can compete for large-scale funding from national and international agencies.

The Board has awarded grants to two groups to date, and their accomplishments over the past year are described in the following sections.

The Reproductive Biology Research Unit (RBRU)

The RBRU was founded in 1987 with the appointment of Dr. Bruce Murphy as a professor in the Department of Obstetrics and Gynecology in the College of Medicine. The Unit is a collaboration among basic and clinical scientists to advance understanding of, and develop treatments for reproductive disorders. Last year's SHRB Annual Report described the highlights of the RBRU's activities for 1988 (the Unit operates on a calendar year basis). Highlights during 1989 include:

- * 32 publications in refereed journals, 17 abstracts, and the completion of a doctoral thesis;
- * 17 presentations to national and international scientific meetings;
- * the appointment of Dr. Donna Chizen, a clinician with research interests in male infertility, ovarian super-stimulation and ovulatory dysfunction;
- * external annual funding as of December 31, 1989 of approximately \$465,000 (excluding the \$100,000 per year SHRB grant), and a similar amount pending the outcome of applications submitted.

Two of the basic scientists funded from the SHRB award have already received external funding from national agencies. Dr. Roger Pierson has been particularly successful in that he has received an MRC Development Grant totalling \$330,000 in salary and operating grants. All RBRU members have been very active in seeking external funding, and there is no doubt that the "matching" aspect of this Strategic and Matching Grant has been immensely successful.

The success of the RBRU to date has, as is often the case, revealed needs that must be met if it is to continue to build upon its scientific achievements. First, there must be contiguous laboratory space for the growing corps of scientists. Second, some of the work requires highly sophisticated and expensive equipment on a dedicated basis if the RBRU is to become increasingly competitive on the international scene. For example, Dr. Pierson

was the first scientist in the world to photograph the process of ovulation - an event which received considerable media attention. The Unit needs a dedicated ultrasound unit to build on this ground-breaking work. The equipment costs on the order of a quarter of a million dollars. This development illustrates the research funding dilemma rather well: the demand for better and more expensive infrastructure arises from excellence, and an infrastructure which cannot support higher stages of development will see many of its best ideas and scientists thwarted, exported, or surpassed.

The Pharmacoepidemiology Research Consortium

The Consortium began its activities in earnest during 1989-90. Unlike the RBRU, the Consortium is starting its work at the developmental stage with a new team and a massive series of issues. The Saskatchewan Prescription Drug Plan database is world-renowned, and the first task of the Consortium was to assemble a data set usable for research. This has proved to be an expensive and time-consuming exercise, finally completed in early 1990.

The recruitment of Dr. Nigel Rawson, an experienced pharmacoepidemiologist from Britain, is a key achievement for the Consortium. Under the direction of Dr. Carl D'Arcy, the Consortium now has a sufficient core team to begin work on a number of projects, and to apply for external funding. These developments should make 1990-91 a crucial year in the Consortium's history, and the Board has every confidence that it will develop into a centre capable of unique and important contributions to pharmacoepidemiology.

8. EVALUATION RESEARCH

In 1989-90 the Board received a grant of \$500,000 to support evaluation research. This marks the beginning of a programme which, if funding continues over a number of years, could make a significant impact on Saskatchewan's health system.

The Board decided to assess the interest in evaluation research in the province given the historical lack of activity in the area. In conjunction with a broad coalition of provincial organizations and agencies, the Board sponsored *Evaluation: The Key to Tomorrow's Health System* on January 18 and 19, 1990. The conference was designed to combine an introduction to the topic of evaluation with examples of evaluation research. All sessions were plenary, and there was a combination of lectures, presentation of research findings, and a debate on a topic which lends itself both to evaluation, and different interpretations.

As an expression of interest, the conference was a great success, with 320 people in attendance. Registrants were asked to complete a questionnaire evaluating the conference, and the results were very positive. There is widespread recognition that evaluation will become a prominent part of the health system of tomorrow, and that resource allocation among other things may be tied to the demonstrated value and efficiency of programmes and services.

Because this initial response was so promising, the Board decided to hold an open evaluation research competition as part of its general annual research grant competition in March 1990. Next year's annual report will discuss the outcomes fully. The initial response is encouraging: sixteen applications were received requesting a total of \$700,000, which is an extremely good sign in that the guidelines were not available until approximately five weeks before the deadline.

The Board did consider the monies received in 1989-90 as available for funding evaluation research proposals submitted as part of the general competition. As the financial statements reflect, 4 grants totalling \$138,605 were awarded from the Evaluation Fund: one postdoctoral fellow (Chen) and three socio-health researchers (Fischer, Greer, and Remus).

The Board has established a separate Evaluation Committee to consider how best to develop the field in Saskatchewan. The Board believes it is essential for other organizations, particularly those involved in the provision of services, to play an active role in encouraging evaluation research and applying valid findings. There must be a solid "evaluation culture" in the province if good research is to translate into good practice. There is good reason for optimism in that there is obvious interest in the subject and a willingness to collaborate on the part of health care practitioners and programme managers. The Board will explore options for ensuring that this climate of growth persists, and eventually, the Province should be able to tap into external sources of funding once the credibility of the local research community is established.

9. LOOKING TOWARDS THE YEAR 2000

1989-90 was a pivotal year for the SHRB in that it was halfway between the date of its inception and the beginning of the 21st century. It therefore seems appropriate to reflect on the history of health research in the province, and to describe our current status and prospects in the broader national and international context which inevitably influences local developments.

a) Historical Health Research Performance

The external reputation of the province in biomedical research reached its apex in the 1960s with the development of cobalt therapy and the anticoagulant drug heparin. Not coincidentally, the province participated in some very significant breakthroughs and discoveries at a time when it was still possible for solo, or small groups of investigators to lead their fields, often without large grants. Today's research environment is different. Major developments typically arise from groups of investigators working in well-developed and handsomely funded programmes or institutes.

Saskatchewan has been home to a number of world-renowned databases for decades. These databases create the potential for a wealth of socio-health research and programme evaluation studies, epidemiological investigations, and related projects. Saskatchewan has not been among the leaders in socio-health research despite this "environmental" advantage. The proportion of

NHRDP grants coming into the province has declined over the past ten years. There are only a few active career socio-health investigators. It appears that access to the databases has been relatively restricted and costly compared to provinces such as Manitoba and British Columbia, for example.

Saskatchewan has slightly under 4% of Canada's population. Approximately 2% of the nation's health research is performed in the province. In constant dollars, the SHRB spent approximately 7% less in 1989-90 than in 1980-81. Adjusted for inflation, funding obtained by Saskatchewan researchers from the Medical Research Council of Canada grew by one-third between 1979-80 and 1983-84, but has declined by approximately 10% since. Health research expenditures in four provinces - Quebec, Ontario, Alberta, and British Columbia - have been growing substantially.

b) Interprovincial Health Research Comparisons

All provinces west of Atlantic Canada have a provincial health research granting agency. In terms of per capita funding from these sources, Alberta leads the way, followed by Quebec, Ontario, British Columbia, and Manitoba. Saskatchewan is last. The British Columbia Health Care Research Foundation currently spends approximately \$5 million per year, but the budget will be expanded to \$12 million within the next year and a half. The Manitoba Health Research Council spends approximately \$2.5 million per year in an environment that has always been considerably better developed than Saskatchewan's.

The research infrastructure in Saskatchewan is very thinly stretched. Teaching loads are high, and we have a large number of health science education programmes operated with relatively small budgets. In addition to University-based activities, other provinces have health research centres attached to hospitals and free standing institutes. Saskatchewan lacks this range of research organizations. Because of the widely distributed university infrastructure, with very few pockets of concentrated expertise, the province has not been able to attract major group funding from national and international agencies. Finally, the overall environment has not been sufficiently attractive to overcome our geographical disadvantages in recruitment of new personnel. While a number of good new investigators have moved into the province over the past decade, we are moving into an era of a "sellers' market." The difficulties experienced in recruiting personnel for the new Cancer Research Centre at the University of Saskatchewan, and in the areas of molecular biology and epidemiology, are evidence of a problem certain to become more acute as the retirement wave at both universities accelerates later on in the decade.

c) Factors Affecting the Future of Health Research in the Province

Health research is becoming increasingly global, and Saskatchewan's future performance will depend largely on three factors. First, the provincial research infrastructure, consisting of personnel, equipment, and space, will have to be adequate to tackle important, multidisciplinary questions. Second, there must be a reasonable opportunity to compete for external funding, particularly at the group or programme level as opposed to individual

operating grants. Third, the overall health research environment must be attractive to new researchers who wish to develop their careers in a vibrant and stimulating setting.

Saskatchewan's health research status is not established in isolation. Activities in other provinces and internationally set the standards against which we are measured. There are two possible means of repositioning Saskatchewan in health research. One is to compress the existing infrastructure into a number of key areas. This option has serious implications for health science education programmes in the province, and to be even remotely feasible would require greater interprovincial coordination of these programmes. The other is to follow the lead of other provinces by providing more money to fund new programmes, personnel, and equipment. As experiences in other provinces have shown, building up the infrastructure eventually leads to researchers' coalescing into groups able to address important, multidisciplinary questions, and attract large external grants.

d) The Economics of a Successful Health Research Environment

It is generally accepted that 2% or more of the budget of any thriving sector must be spent on research and development. Two percent of the provincial health budget is \$30 million. Total current expenditures from all sources, while difficult to ascertain precisely, amount to no more than \$11 - \$13 million. In other words, health research expenditures in Saskatchewan are considerably less than half the minimum level considered acceptable by international standards.

It is also generally accepted that investment in research and development is an important means of transforming an economy and making it competitive. This is true in both developed and developing economies. In the health sector, there is growing recognition that the recruitment and retention of high quality health care practitioners depend in part on the opportunities to participate in health research. Numerous analysts, including the authors of the province's *Commission on Future Directions in Health Care* report, have pointed to inefficiencies in the health care system, the solutions to which lie in good quality research appropriately applied.

On numerous occasions the Board has shown that each dollar invested by the province in health research generates from two to seven dollars in external grants within five years. Other provincial granting agencies report similar results. The Strategic and Matching Grants programme has demonstrated that larger grants can generate substantial returns in a relatively short period of time (see the section on the Reproductive Biology Research Unit elsewhere in this Report). As a generator of external funds, and as an engine of job creation, health research investment has few equals. These advantages are in addition to the tremendous impact health research has on both health care effectiveness and efficiency.

e) Towards a Brighter Health Research Future

Given its historical funding level of roughly \$1 million annually, the Board

will likely be able to maintain health research in its traditional role of supporting health science education programmes. This is an important and valuable function, but it is a far cry from the more ambitious objective of making health research a full-fledged participant in the development and increased effectiveness and efficiency of the health system and its economy. During the coming year the government will be reconsidering the future of the health system in light of the *Commission on Future Directions in Health Care* report. The Board believes that such a reconsideration must include the articulation of both a vision of, and concrete goals for health research. An expanded research base, and a flourishing "research culture" are likely to do more to change the health system than abstract policy and resource allocation debates. There can be no wiser investment in the future of our health system than to ensure that Saskatchewan becomes a full-fledged participant in health research.

**APPENDIX 1
SASKATCHEWAN HEALTH RESEARCH BOARD
APRIL 1, 1989 THROUGH MARCH 31, 1990**

ROBERTSON, Dr. Bev
(Chairman)
Dept. of Physics and Astronomy
University of Regina
Regina, Saskatchewan

BALA, Dr. Marvin
(Vice-Chairman)
Department of Medicine
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan

ALLSEN, Mr. Gordon
Swift Current Union Hospital
Swift Current, Saskatchewan

ANDERSON, Ms. Dianne
University Affairs
5th Floor, 2220 College Avenue
Regina, Saskatchewan

BLACKBURN, Dr. Jim
College of Pharmacy
University of Saskatchewan
Saskatoon, Saskatchewan
(appointed by Order-In-Council October 25, 1989)

DAVIDSON, Ms. Toni
Vanscoy, Saskatchewan
(resignation accepted by
Order-In-Council October 25,
1989)

HADDOCK, Ms. Shirley
Rosetown, Saskatchewan

HICKIE, Dr. Robert
Department of Pharmacology
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan
(appointment terminated by
Order-In-Council October 25,
1989)

HINDMARSH, Dr. Wayne
College of Pharmacy
University of Saskatchewan
Saskatoon, Saskatchewan
(appointment terminated by
Order-In-Council October 25,
1989)

LI, Dr. Peter
Department of Sociology
University of Saskatchewan
Saskatoon, Saskatchewan
(appointed by Order-In-Council October 25, 1989)

MATTHEWS, Dr. Peter
Department of Psychiatry
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan
(appointment terminated by
Order-In-Council October 25,
1989)

MURPHY, Dr. Bruce
Reproductive Biology Research
Unit
University Hospital
Saskatoon, Saskatchewan
(appointed by Order-In-Council October 25, 1989)

POULIN, Dr. Louis
681 15th Avenue West
Prince Albert, Saskatchewan
(appointed by Order-In-Council October 25, 1989)

RIDLEY, Dean Una
College of Nursing
University of Saskatchewan
Saskatoon, Saskatchewan
(resignation accepted by
Order-In-Council October 25,
1989)

(continued)

SHRB BOARD MEMBERS (CONTINUED)

STARK-ADAMEC Dr. Cannie
Department of Psychology
University of Regina
Regina, Saskatchewan

YEATES, Ms. Glenda
Associate Deputy Minister
Saskatchewan Health
3475 Albert Street
Regina, Saskatchewan

APPENDIX 2

FINANCIAL STATEMENTS

AND

THE AUDITOR'S REPORT THEREON

SASKATCHEWAN HEALTH RESEARCH BOARD

FINANCIAL STATEMENTS

Year Ended March 31, 1990

OFFICE OF THE PROVINCIAL AUDITOR

REGINA, SASKATCHEWAN

AUDITOR'S REPORT

To the Members of the Legislative Assembly
of Saskatchewan

I have examined the balance sheet of the Saskatchewan Health Research Board as at March 31, 1990 and the statements of revenue, expenditure and fund balance and changes in financial position for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Board as at March 31, 1990 and the results of its operations and the changes in its financial position for the year then ended in accordance with the accounting principles disclosed in Note 2 to the financial statements applied on a basis consistent with that of the preceding year.

Regina, Saskatchewan
August 17, 1990



G. F. Wendel, C.A.
A/Provincial Auditor

SASKATCHEWAN HEALTH RESEARCH BOARD

Statement 1

BALANCE SHEET

As at March 31

	<u>1990</u>		<u>1989</u>	
	<u>General</u>	<u>Evaluation</u>	<u>Total</u>	<u>Total</u>
	<u>Fund</u>	<u>Fund</u>		
<u>ASSETS</u>				
Cash	\$ 17,798	\$ ---	\$ 17,798	\$ 17,440
Accrued interest receivable	71,462	---	71,462	7,100
Interfund receivable (payable)	(499,977)	499,977	---	---
Short term investments, at cost				
which approximates market value	2,067,414	---	2,067,414	1,248,258
Fixed assets	21,917	---	21,917	19,209
Other assets	1,283	---	1,283	1,283
Total Assets	<u>\$1,679,897</u>	<u>\$ 499,977</u>	<u>\$2,179,874</u>	<u>\$1,293,290</u>

LIABILITIES AND EQUITY

<u>Liabilities:</u>				
Accounts payable	\$ 6,530	\$ ---	\$ 6,530	\$ 7,626
Grants payable	<u>1,225,623</u>	<u>138,605</u>	<u>1,364,228</u>	<u>806,826</u>
Total Liabilities	<u>1,232,153</u>	<u>138,605</u>	<u>1,370,758</u>	<u>814,452</u>
<u>Equity:</u>				
Equity in fixed assets	21,917	---	21,917	19,209
Fund balance (Note 3)	<u>425,827</u>	<u>361,372</u>	<u>787,199</u>	<u>459,629</u>
Total Equity	<u>447,744</u>	<u>361,372</u>	<u>809,116</u>	<u>478,838</u>
Total Liabilities and Equity	<u>\$1,679,897</u>	<u>\$ 499,977</u>	<u>\$2,179,874</u>	<u>\$1,293,290</u>

(See accompanying notes)

SASKATCHEWAN HEALTH RESEARCH BOARD
STATEMENT OF REVENUE, EXPENDITURE AND FUND BALANCE
Year Ended March 31

	1990			1989		
	General Fund	Gerontology Fund	Evaluation Fund	Total	Total	Total
Revenue:						
Grant - Department of Health	\$1,000,000	\$ ---	\$ 500,000	\$1,500,000	\$ 870,000	
Interest	162,165	16,805	---	178,950	148,361	
Other	31	184	9,050	9,265	---	
	<u>1,162,176</u>	<u>16,989</u>	<u>509,050</u>	<u>1,688,215</u>	<u>1,018,361</u>	
Expenditure:						
Research grants	1,064,207	30,000	138,605	1,232,812	994,679	
Salaries and benefits	80,539	---	---	80,539	53,367	
Administrative and operating expenses	7,617	3,055	---	10,672	11,987	
Honoraria and expenses of the board and committees	10,076	---	---	10,076	10,752	
Furniture and fixtures	2,707	---	---	2,707	1,419	
Rent	12,766	---	---	12,766	12,790	
Conference expense (Note 5)	---	---	9,073	9,073	---	
	<u>1,177,912</u>	<u>33,055</u>	<u>147,678</u>	<u>1,358,645</u>	<u>1,046,994</u>	
Excess of revenue over expenditure (expenditure over revenue)	(15,736)	(18,066)	361,372	327,570	(26,633)	
Fund balance, beginning of year	348,058	111,571	---	459,629	486,262	
Interfund Transfer (Note 1)	93,505	(93,505)	---	---	---	
Fund balance, end of year - to Statement 1	<u>\$ 425,827</u>	<u>\$ ---</u>	<u>\$ 361,372</u>	<u>\$ 787,199</u>	<u>\$ 459,629</u>	

(See accompanying notes)

SASKATCHEWAN HEALTH RESEARCH BOARD
STATEMENT OF CHANGES IN FINANCIAL POSITION
Year Ended March 31

	1990			1989
	General Fund	Gerontology Fund	Evaluation Fund	Total
Cash provided by (used in):				
Operating Activities:				
Grant receipts	\$ 1,000,000	\$ ---	\$ 500,000	\$ 1,500,000
Interest and other receipts	98,043	14,760	24,636	137,439
Grants paid	(675,410)	---	---	(675,410)
Other disbursements	(107,908)	(9,869)	(24,659)	(142,516)
Decrease (increase) in interfund receivable	504,590	(4,613)	(599,977)	---
Interfund transfer (Note 1)	8,611	(8,611)	---	---
	<u>827,866</u>	<u>(8,333)</u>	<u>---</u>	<u>819,533</u>
Investment Activities:				
Proceeds from matured Investments	3,742,697	446,385	---	4,189,082
Purchase of Investments	(4,562,522)	(445,708)	---	(5,008,230)
	<u>\$ (819,825)</u>	<u>677</u>	<u>---</u>	<u>(819,148)</u>
Increase (decrease) in cash during the year	8,014	(7,656)	---	358
Cash balance, beginning of year	9,786	7,656	---	17,442
Cash balance, end of year	<u>\$ 17,790</u>	<u>\$ ---</u>	<u>\$ ---</u>	<u>\$ 17,790</u>

(See accompanying notes)

SASKATCHEWAN HEALTH RESEARCH BOARD

NOTES TO THE FINANCIAL STATEMENTS

March 31, 1990

1. Authority

The Saskatchewan Health Research Board was established under the provisions of The Health Research Act for the purpose of assisting and stimulating research in the healing arts and health sciences. Pursuant to proclamation of the Act, the Board came into being on September 15, 1979. During 1981 the Board was awarded status as a registered charity under The Income Tax Act.

Under The Health Research Act, the Saskatchewan Health Research Fund was also established, through which all transactions of the Board are conducted. This Fund is comprised of three components: the General Fund, the Gerontology Fund and the Evaluation Fund. The revenues and expenditures for each component are separately accounted for in the financial statements.

The Gerontology Fund was established in the 1986/87 fiscal year pursuant to an agreement entered into between the Department of Health and the Saskatchewan Health Research Board under which the Board agreed to administer and allocate monies received from the Department. The agreement also provided that the use of these funds be restricted to gerontology research and costs incurred in administering and allocating the funds. In 1989/90 the terms of this agreement were considered fulfilled as the Board has spent in excess of the \$100,000 grant on gerontology research and related activities. The balance remaining in the Gerontology Fund resulted from a combination of external fund raising efforts and a complete administration fee not being assessed. The Board passed a resolution closing the Gerontology Fund and transferring all remaining assets to the General Fund as of March 31, 1990.

The Evaluation Fund was established in the 1989/90 fiscal year pursuant to an agreement entered into between the Department of Health and the Saskatchewan Health Research Board under which the Board agreed to administer and allocate monies received from the Department. The agreement also provided that the use of these funds be restricted to evaluation of health technology and procedures and costs incurred in administering and allocating the funds.

2. Accounting Policies

a) Fund Accounting

The Saskatchewan Health Research Board follows fund accounting procedures in which a self-balancing group of accounts is provided for each Fund.

b) Research Grants

i) Annual Competitions

The Saskatchewan Health Research Board holds annual competitions through which funds are awarded to successful applicants for terms of up to two years. The Board follows the policy of recording the grant awards approved and committed during the year as expenditures. At year end, awards which have not been paid to individuals or to institutions administering awards on behalf of researchers but which are still committed for a competition are shown as grants payable on the balance sheet.

ii) Strategic Matching Grants

In 1986, the Board embarked upon a Strategic and Matching Grants Program involving the setting aside of money to fund major projects/groups over a period of a number of years. Two such projects have been approved by the Board and extend over five years.

- 1) The Reproductive Biology Research Unit, Department of Obstetrics and Gynaecology of the College of Medicine at the University of Saskatchewan (Murphy Group); and
- 2) The Pharmaco-epidemiology Research Consortium, Department of Psychiatry at the University of Saskatchewan (D'Arcy Group).

The Board follows the policy of recording the grants awarded in conformity with the originally anticipated funding requirements of each group as opposed to recording the amount as an expenditure during the year of the original commitment. The amount recorded for each project is \$100,000 per year commencing in the year the agreements are signed. Each agreement contained a stipulation concerning positive evaluations of the research program by the Board.

The balance of funds advanced to administering institutions in excess of the current requirements of researchers is held in trust by those institutions until drawn down by the researchers. In the event of the completion or termination of a project, or non-compliance with the terms of an award, the balance of unexpended funds is treated as a reduction of grant expenditure in the year that this is determined. These funds are then available to be awarded for future research.

c) Fixed Assets

Fixed asset purchases are charged as an expense against operations in the year of purchase and are therefore not depreciated. All fixed asset additions charged to expense are reflected in the statement of revenue, expenditure and fund balance. To reflect accountability for fixed assets in the financial statements, it is necessary to record them as balance sheet assets with a corresponding entry to "Equity in Fixed Assets". On disposition, the original cost of fixed assets is removed from the fixed assets and equity in fixed assets accounts and proceeds are recorded as other revenue.

d) Investments

Investments are recorded at cost.

e) Donations

Donations are recorded as revenue when cash is received or its receipt is reasonably certain.

3. Cash and Investments

In accordance with a request of the Department of Health, the Board agreed to retain portions of Provincial grants provided in previous years to the General Fund as invested capital. During 1984/85, the Department authorized the Board to begin drawing down on these accumulated funds to support current expenditures for research and administration. Accordingly, the Board considers that, of the cash and investments balance at March 31, 1990, \$179,406 was being retained as invested capital of the General Fund (March 31, 1989 - \$101,637).

4. Related Parties

Included in these financial statements are expenses resulting from routine operating transactions conducted at prevailing market prices with various Saskatchewan crown controlled departments, agencies and corporations with which the Board is related.

Account balances resulting from these transactions are included in the balance sheet and are settled on normal trade terms.

5. Conference Expense

Honoraria, travel and sustenance of guest speakers and Board	\$13,861
Rental	816
Printing, postage, office supplies	3,702
Telephone	1,876
Other Expenses	<u>4,404</u>
	24,659
Less: Registration fees and other recoveries	<u>15,586</u>
Net expenses	<u>\$ 9,073</u>

6. Commitments

As at March 31, 1990, the Board was committed to a lease agreement for office premises with payments of \$1,008 per month to July 31, 1990.

The Board has committed \$1 million to two major projects under the Strategic Matching Grants Programs. Of this commitment the amount recorded as an expenditure in the current year is \$200,000 and the accumulated expenditure recorded to March 31, 1990 is \$500,000.

APPENDIX 3A

SASKATCHEWAN HEALTH RESEARCH BOARD BIOMEDICAL REVIEW COMMITTEE COMPETITION 10 (1989)

BALA, Dr. Marvin (Chairman) Department of Medicine College of Medicine University of Saskatchewan Saskatoon, Saskatchewan	(1)	McKAY, Dr. Gordon College of Pharmacy University of Saskatchewan Saskatoon, Saskatchewan	(3)
CONLY, Dr. John Department of Microbiology Room F237 University Hospital Saskatoon, Saskatchewan	(2)	MUNOZ, Dr. David Department of Pathology College of Medicine University of Saskatchewan Saskatoon, Saskatchewan	(3)
DEVON, Dr. Richard Department of Oral Biology College of Dentistry University of Saskatchewan Saskatoon, Saskatchewan	(1)	WARRINGTON, Dr. Robert Department of Biochemistry College of Medicine University of Saskatchewan Saskatoon, Saskatchewan	(3)
DOIGE, Dr. Cecil Department of Vet. Pathology Western College of Vet. Med. University of Saskatchewan Saskatoon, Saskatchewan	(2)	WILSON, Dr. Tom Department of Pharmacology College of Medicine University of Saskatchewan Saskatoon, Saskatchewan	(1)
GALLAGHER, Dr. Charles Department of Medicine 546 Ellis Hall University of Saskatchewan Saskatoon, Saskatchewan	(1)	WOLLIN, Dr. Armin Department of Physiology College of Medicine University of Saskatchewan Saskatoon, Saskatchewan	(3)
KELLN, Dr. Rod Department of Chemistry University of Regina Regina, Saskatchewan	(5)		

Figure in parentheses indicates number of years served, including the current competition.

APPENDIX 3B

SASKATCHEWAN HEALTH RESEARCH BOARD SOCIO-HEALTH REVIEW COMMITTEE COMPETITION 10 (1989)

RIDLEY, Dean Una (Chairperson) College of Nursing University of Saskatchewan Saskatoon, Saskatchewan	(1)	LAING, Dr. Gail College of Nursing University of Saskatchewan Saskatoon, Saskatchewan	(3)
ALFANO, Dr. Dennis Department of Psychology Faculty of Arts University of Regina Regina, Saskatchewan	(1)	LI, Dr. Peter Department of Sociology College of Arts and Science University of Saskatchewan Saskatoon, Saskatchewan	(3)
DASTMALCHIAN, Dr. Ali Industrial Relations and Organizational Behaviour College of Commerce University of Saskatchewan Saskatoon, Saskatchewan	(3)	MASLANY, Dr. George Faculty of Social Work University of Regina Regina, Saskatchewan	(1)
DICKINSON, Dr. Harley Department of Sociology College of Arts and Science University of Saskatchewan Saskatoon, Saskatchewan	(3)	SMITH, Ms. Pamela Sample Survey and Data Bank Unit University of Regina Regina, Saskatchewan	(3)
GILLIS, Ms. Debra Medical Services Branch Health and Welfare Canada 1855 Smith Street Regina, Saskatchewan	(1)	von BAEYER, Dr. Carl Department of Psychology College of Arts and Science University of Saskatchewan Saskatoon, Saskatchewan	(2)

Figure in parentheses indicates number of years served, including the current competition.

APPENDIX 3C

SASKATCHEWAN HEALTH RESEARCH BOARD PERSONNEL AWARDS REVIEW COMMITTEE COMPETITION 10 (1989)

HINDMARSH, Dr. Wayne (Chairman) College of Pharmacy University of Saskatchewan Saskatoon, Saskatchewan	(2)	HERMAN, Dr. Robert Department of Pharmacology College of Medicine University of Saskatchewan Saskatoon, Saskatchewan	(3)
ASHTON, Dr. Neil Department of Biology Faculty of Science University of Regina Regina, Saskatchewan	(2)	KIRKPATRICK, Dr. Lynn Department of Chemistry Faculty of Science University of Regina Regina, Saskatchewan	(3)
BLACKBURN, Dr. Jim College of Pharmacy University of Saskatchewan Saskatoon, Saskatchewan	(1)	LEE, Dr. Jeremy Department of Biochemistry College of Medicine University of Saskatchewan Saskatoon, Saskatchewan	(2)
BLAKLEY, Dr. Barry Dept. of Vet. Physiological Sciences Western College of Vet. Medicine University of Saskatchewan Saskatoon, Saskatchewan	(1)	MANNS, Dr. James College of Graduate Studies and Research University of Saskatchewan Saskatoon, Saskatchewan	(3)
COCKCROFT, Dr. Donald Pulmonary Medicine Section Department of Medicine University Hospital Saskatoon, Saskatchewan	(3)		

Figure in parentheses indicates number of years served including the current competition.

APPENDIX 4

SASKATCHEWAN HEALTH RESEARCH BOARD AWARDS GRANTED COMPETITION 10 (1989)

RESEARCH FELLOWSHIPS

ABD-EL-BASSET, Ebtesam M. (Fedoroff, S.)	24,780	89-90
Anatomy, University of Saskatchewan	26,520	90-91
Organization of microfilaments in differentiating astroglia		
CHAUDHARY, Ajai K. (Prasad, K.)	28,200	89-90
Physiology, Pathology, University of Saskatchewan		
Involvement of oxygen free radicals in ischemic and reperfusion cardiac injury during open heart surgery		
CHEN, Yue (Dosman, J.)	24,780	89-90
Medicine, University of Saskatchewan	26,520	90-91
The association of various risk factors on pulmonary function		
LI, Xinmin (Juorio, A.)	24,780	89-90
Psychiatry, University of Saskatchewan	26,520	90-91
A study of β -phenylethylamine binding sites and their physiological significance		
RAO, K. V. Subba (Hertz, L.)	28,200	89-90
Pharmacology, University of Saskatchewan		
Investigation of a possible direct role of glial cells (astrocytes) in the pathogenesis of Alzheimer's		
YE, Zhongbo (Bhaumick, B.)	24,780	89-90
Medicine, University of Saskatchewan	26,520	90-91
The similarity and dissimilarities of SM/IGF produced by fibroblast (FSLA)		

BIOMEDICAL ESTABLISHMENT GRANTS

CROSSLEY, Margaret F.	30,000	89-90
Psychiatry, University of Saskatchewan		
Neuropsychological evaluation of cognitive functioning in normal and pathological aging		
DENEER, Harry G.	29,475	89-90
Microbiology, University of Saskatchewan	30,000	90-91
Mechanisms of iron uptake by <i>Listeria monocytogenes</i>		

FOLDVARI, Marianna	28,708	89-90
Pharmacy, University of Saskatchewan	29,102	90-91
Investigation of liposomal drug delivery systems for the topical application of drugs:		
1. Local anesthetic agents		
HAINES, Deborah M.	30,000	89-90
Veterinary Microbiology, University of Saskatchewan	30,000	90-91
Evaluation of TP monoclonal antibody - directed immunoscintigraphic diagnosis of metastatic canine osteosarcoma		
JOHNSON, David	30,000	89-90
Medicine, University of Saskatchewan	30,000	90-91
The role of vasoconstrictors and vasodilators in hypoxic pulmonary vasoconstriction		
KULYK, William M.	30,000	89-90
Anatomy, University of Saskatchewan	30,000	90-91
Involvement of growth factor gene and proto- oncogene expression in the regulation of embryonic limb cartilage formation		
PATERSON, Ian A.	30,000	89-90
Psychiatry, University of Saskatchewan	30,000	90-91
An investigation of the role of β -phenylethylamine in the neurotransmission of dopamine in the the brain		
PIERSON, Roger A.	21,744	89-90
Obstetrics & Gynecology, University of Saskatchewan	22,404	90-91
Human ovarian follicular population dynamics		
ROESLER, William J.	30,000	89-90
Biochemistry, University of Saskatchewan	30,000	90-91
Characterization of a transcriptional element present in genes expressed in the liver		
STEPHEN, Alison M.	30,000	89-90
Nutrition & Dietetics, University of Saskatchewan	26,000	90-91
The relationship between intakes of soluble and insoluble dietary fibre and serum cholesterol levels in Saskatoon		
WEST, Michael	30,000	89-90
Medicine, University of Saskatchewan	26,900	90-91
Renal potassium secretory response to exogenous mineralocorticoids in health and disease		
WILLIAMS, Kurt E.	30,000	89-90
Medicine, University of Saskatchewan	30,000	90-91
Mechanisms of resistance to silver: The role of the outer membrane		

SOCIO-HEALTH ESTABLISHMENT GRANTS

REMUS, Gail M. Nursing, University of Saskatchewan Identifying health promotion and health maintenance needs of older adults in the community	10,645	89-90
---	--------	-------

SOCIO-HEALTH RESEARCH GRANTS

FISCHER, Donald G. Psychology, University of Saskatchewan Burnout in the workplace	17,000	89-90
--	--------	-------

GREER, Marianne L. Pharmacy, University of Saskatchewan	29,830	89-90
Development of an integrated decision-support expert system for formulary decision making	29,830	90-91

EQUIPMENT GRANTS

DESAUTELS, Michel Physiology, University of Saskatchewan Waters high pressure liquid chromatography system (HPLC)	30,000	89-90
--	--------	-------

KIRKPATRICK, D. Lynn Chemistry, University of Regina Coulter [®] - Channel Analyzer	14,000	89-90
--	--------	-------

ZIOLA, Barry Microbiology, University of Saskatchewan LS 5000 TD Liquid Scintillation Counting system	30,000	89-90
---	--------	-------

CONFERENCE GRANTS

American Association of Clinical Anatomists Annual Scientific Meeting, May 31-June 2, 1989, Saskatoon, Saskatchewan	2,000	89-90
---	-------	-------

Starch in Human Nutrition, June 19-21, 1989, Saskatoon, Saskatchewan	2,000	89-90
---	-------	-------